THE OPERATIVE TREATMENT OF FISTULA IN ANO.

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In all cases of fistula *in ano*, before undertaking operative interference, it is essential for the surgeon to examine the patient carefully, not only locally, but also as to the general state of health; for this disease is not unfrequently complicated with other lesions, which may render operative procedures unadvisable. Thus, when a fistula is associated with a stricture of the rectum, if it be of a malignant nature, any operative interference on the former lesion will be out of the question. If it be a simple stricture and its existence is not recognized, or, if discovered, it be left untreated, any operation performed on the fistula will fail to effect a cure.

TREATMENT BY INCISION.

In a large majority of cases of fistula *in ano* the operation which is sanctioned by experience as the most prompt and certain, at the same time that it is the safest in its result for the radical and permanent cure of this disease, is to lay open the sinus into the rectum, dividing all the tissues intervening between its cavity and that of the bowel with the knife.

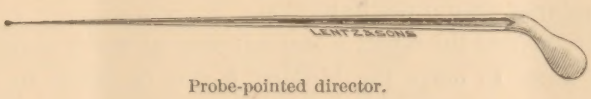
The preparation of the patient consists in having the bowels thoroughly moved by means of castor oil or some mild purge on the day preceding the operation, and on the morning of the operation the lower bowel should be evacuated by the administration of an enema.

After etherization the patient should be placed on the side on which the fistula exists, the buttock being brought to the edge of the operating-table. In some cases the lithotomy posture is better, as in cases in which there is complex fistula.

The first step in the operation is to dilate the sphincter muscles, which is to be done in a slow but steady manner, by introducing the two thumbs into the rectum, back to back, and making gradual pressure around the anal orifice, until muscular contraction is overcome.

In dealing with *complete fistulæ* a probe-pointed director (Fig. 1) is

Fig. 1.



Probe-pointed director.

passed through the sinus and is then brought out of the anus by means of the forefinger of the left hand introduced into the bowel. The parts lying

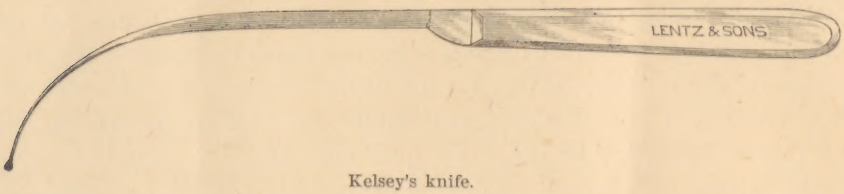
upon the director are then to be divided with a sharp bistoury. Various forms are used (see Figs. 2 and 3). A careful search is now to be made for

Fig. 2.

Probe-pointed knife.

any diverticula, which, if found, should be divided. If none exist, the granulations lining the track should be scraped away with a Volkmann's

Fig. 3.



Kelsey's knife.

spoon (Fig. 4). The healing process will be facilitated by removing with scissors all overlapping edges of skin and mucous membrane.

Fig. 4.

Volkmann's spoon.

If the internal opening is more than an inch from the anus, a probe-pointed bistoury should be introduced into the fistula upon a director, and its point made to impinge upon a finger in the rectum. As the finger and the instrument are withdrawn, the necessary incision is made. Instead of this plan being pursued, the director can be passed through the sinus and a wooden gorget (Fig. 5) inserted into the bowel, after which the track

Fig 5.

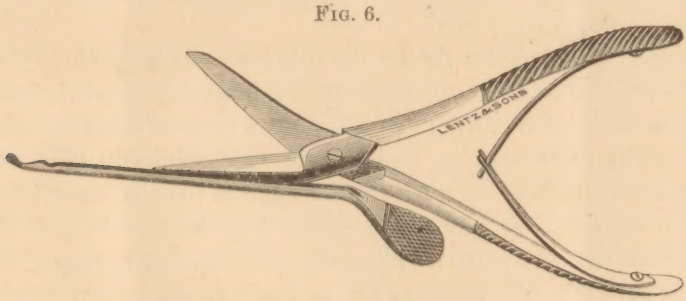
Blunt gorget.

can be divided with an ordinary bistoury. The gorget prevents the bowel from being injured should the knife slip.

When the track of the fistula is much indurated, and it therefore requires considerable force to make the incision, it will be better to perform the operation by means of Mr. Allingham's scissors and director (Fig. 6). With this instrument fistulæ running high up in the bowel may be divided, no matter how dense they may be. The director is made with a deep groove,

the transverse section of which is more than three-quarters of a circle; in this the globe-shaped probe-point of one blade of the scissors runs. When

FIG. 6.



Allingham's scissors and director.

once placed in the groove the blade cannot slip out; so, having passed the director through the sinus, the forefinger of the left hand is introduced into the bowel, and then the probe-pointed blade of the scissors is inserted into the groove of the director, and is run along it, cutting its way through as it goes, the finger in the bowel preventing the healthy structures from being wounded.

A frequent error in operating on fistulous cases consists in not keeping to the sinus: the director is pushed through the track-wall, and is then free to roam about in the cellular tissue of the part, at the operator's will. In this manner a portion of the fistulous channel is left and an unnecessary amount of the tissues (skin and subcutaneous structures) is divided. Such a mistake can always be avoided by taking plenty of time in performing the operation, and by careful sponging of the sinus as it is laid open, in order to follow the track by the granulation-tissue lining it, which by this simple means is freely exposed to view.

The method of treating *external rectal fistulæ* must vary according to the direction and extent of the track. If the mucous membrane alone intervenes between the finger introduced into the bowel and a probe passed along the sinus, the channel should be transformed into a complete fistula by perforating the mucous membrane with the probe, or a director, at the uppermost limits of the fistulous channel. The regular operation for complete fistula is then to be performed, by dividing the intervening septum between the fistula and the bowel.

In those cases in which the sinus is directed away from the rectum, the proper course to pursue is not to divide the sphincters, but freely to enlarge the external orifice and maintain free drainage.

The treatment of *incomplete internal rectal fistulæ* invariably demands operative interference at the earliest possible moment after a diagnosis is made, for if left alone its tendency is to burrow.

The operation for a blind external fistula consists in making it a complete fistula and in dividing the intervening structures between the bowel and the sinus. This is best performed by passing a probe-pointed director,

bent at an acute angle, into the bowel, and endeavoring to pass the bent portion through the internal opening; when this is accomplished, the point of the probe can be felt subcutaneously and cut down upon and the remainder of the operation completed.

In dealing with *complex fistulæ* the surgeon must be guided by the peculiarities of each case. In operating upon a horseshoe fistula it is essential to recognize the true condition of affairs, for a careless or an inexperienced observer might think that he had two separate fistulæ to deal with and operate accordingly. Even were he to recognize that he was dealing with a horseshoe fistula, if he followed the usual plan, he would slit up first one sinus and then the other, thus dividing the sphincter in two places, obliquely through its fibres, thus endangering the patient's future power of controlling the movements of the bowel.

According to Messrs. Cooper and Edwards,[1] "If a complex fistula can be laid open in such a way as to entail only one division of the sphincter, and that at right angles to its fibres, there will be a minimum amount of risk of subsequent incontinence. The operation can be done in this way: First pass a probe-pointed director through the internal aperture, and on its point incise the skin in the middle line behind; now push the director through, and slit up. Secondly, slit up the lateral sinuses on directors passed in at the external openings, and brought out at the dorsal incision. These lateral sinuses may take either a straight, curved, or even rectangular direction.

"The first incision will have divided the sphincter, but the other two will only have divided tissue external to it. Should the external apertures be so placed that a straight line drawn from the one to the other would pass behind the anus, the steps of the operation could be reversed, and a director be passed in at one external orifice and out at the other, and the tissues divided. Now pass the director from the wound in the middle line into the bowel through the internal opening and slit up the tissues with the included sphincter. In this way the incisions will be found to be more or less T-shaped, the stem corresponding to the dorsal cut."

TREATMENT OF HEMORRHAGE.

There is seldom much hemorrhage after an operation for fistula, but in some cases it may be found necessary to ligate a large vessel which has been divided. If there should be a profuse general oozing the sinus may be packed with iodoform gauze, or, if necessary, the rectum may be plugged. For this purpose Allingham ties a double string into the centre of a large bell-shaped sponge, which is passed into the bowel so as to prevent the blood from escaping upward into the colon. He then firmly packs the parts below with cotton dusted with powdered alum or persulphate of iron. In order to allow the escape of flatus a catheter may be passed through the sponge. As a rule, all hemorrhages following rectal operations are easily

[1] Diseases of the Rectum and Anus, second edition, p. 119, London, 1892.

controlled by mild measures, such as the local application of hot water, of ice, or of some mild astringent.

THE AFTER-TREATMENT.

After the operation for fistula *in ano*, I am in the habit of packing the wound with iodoform gauze, which is left undisturbed for twenty-four hours. This is done to prevent subsequent hemorrhage. A pad of gauze and cotton and a T-bandage are next applied.

The subsequent dressing of the case should be daily attended to by the surgeon himself. The parts should be kept perfectly clean, and the wound syringed with peroxide of hydrogen (Marchand's), carbolic acid solution, etc., after which a single piece of iodoform gauze laid between the cut surfaces of the wound will be all the dressing required.

In the after-treatment of these cases I have seen the healing process greatly retarded by excessive packing of the wound with lint, or delayed by the undue use of the probe. Such interference is to be avoided.

If the granulations are sluggish and the discharge is thin and serous, it will be well to apply some stimulating lotion, such as peroxide of hydrogen, or a weak solution of copper sulphate (two grains to the ounce).

The surgeon should be on the watch during the healing process to avoid any burrowing or the formation of fresh sinuses. Should the discharge from the surface of the wound suddenly become excessive, it is evidence enough that a sinus has formed, and a careful search should be made for it. Sometimes it is under the edges of the wound that it commences, at other times at the upper or lower ends of the cut surface, and occasionally it seems to branch off from the base of the main fistula.

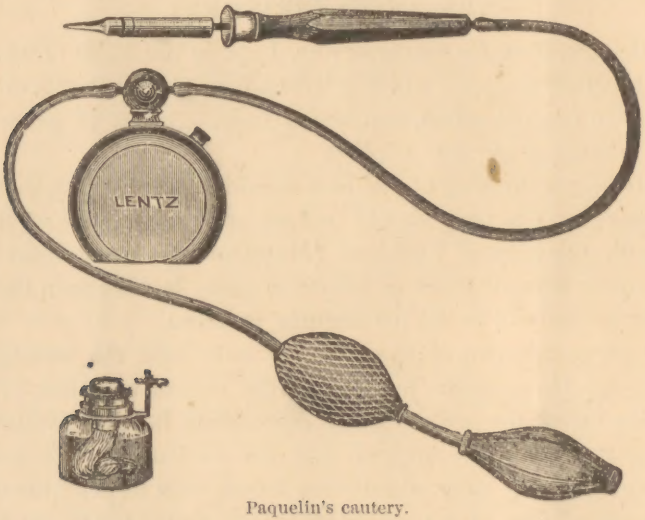
Pain in or near the seat of the healing fistula is another symptom of burrowing, and when complained of, the surgeon should carefully investigate its cause.

After an operation for fistula, the patient's bowels should be confined for three or four days, for which purpose opium is usually given. At the end of this time the bowels may be opened by the administration of a dose of castor oil, and so soon as the patient feels a desire to go to stool, I am in the habit of ordering an enema of warm water to be administered, which has a tendency to render the fæces soft and fluid, and hence to make their passage easier. The patient should be kept in a recumbent posture until the fistula is healed and until the bowels are moved; the diet should be liquid, such as milk, beef-tea, and broths. The time required for a patient to recover after an operation for fistula *in ano* varies with the extent of the disease. In an average case it will be necessary to keep the patient in bed for two weeks, and confined to the house for a couple of weeks longer.

Incontinence of fæces is an unpleasant sequela to the operation for fistula. It is happily of rare occurrence, and follows only extensive operations, such as those in which the sphincter has been divided more than once, etc. When it exists to any extent it is productive of great annoyance to

the patient, possibly more so than the original fistula. Much can be done to relieve this distressing condition. The application of the small point of

Fig. 7.



Paquelin's cautery.

Paquelin's thermo-cautery (Fig. 7) to the cicatrix of the operation wound will often suffice to relieve this trouble, by causing contraction of the anal outlet and giving tone and increased power to the sphincter muscle.

Mr. H. W. Allingham, Jr.,[1] recommends for this condition freeing the ends of the muscle by a deep incision through the old cicatrix, and allowing the wound once more to heal from the bottom by granulation.

Dr. Charles B. Kelsey[2] advocates in these cases the complete excision of such a cicatrix, exposing freely the divided ends of the sphincter, and bringing them together by deep sutures, exactly as in cases of lacerated perineum.

In dealing with a fistula situated anteriorly in a female subject, Messrs. Cooper and Edwards[3] recommend that, after a free division of the sinus, it is well to scrape the track thoroughly with a Volkmann's spoon, and then to insert deep sutures, as in a case of rupture of the perineum, hoping by this means to get union by first intention.

TREATMENT BY IMMEDIATE SUTURE.

In otherwise healthy subjects affected with fistula *in ano*, a method of operating which has met with success, especially in this country, consists in the immediate suture of the wound after the fistula has been excised. The steps of the operation are as follows: Division of the septum between the fistula and the bowel; excision of the entire fistulous channel, together with all lateral sinuses; buried sutures of catgut or of silk are then passed

[1] Medical Press and Circular, May 23.

[2] Annual of the Universal Medical Sciences, 1889, vol. iii. p. 5–D.

[3] Loc. cit., p. 124.

around the wound, at intervals of a quarter of an inch, and are tied so as to bring the deep tissues together. The sutures are inserted very much in the same manner as in the ordinary operation for ruptured perineum. The advantage of this plan of treatment is that primary union is secured, and the patient recovers in a shorter time than would have been the case after one of the operations which aims to secure union by granulation.

TREATMENT BY LIGATURE.

There are two methods of using the ligature, which we may term the *immediate* and the *mediate*.

The *immediate operation* has but little to recommend it. It consists in passing a silk thread through the fistula, and drawing it backward and forward, so as to cut its way through. The same object may be accomplished by the use of the galvanic écraseur, or the wire écraseur of Chassaignac.

Mediate Operation by Ligature.—In this method, either the silk ligature or an elastic one may be employed.

Silk Ligature.—If silk is used, it may be employed in one of two ways. In either case a stout piece of silk is threaded to a curved silver probe which is passed through the fistula and drawn out at the anus. The thread is then passed through the track so that one end hangs out of the bowel and the other at the external orifice of the fistula. It is at this point that the methods diverge. One plan consists in knotting the ends loosely together and allowing the patient to go about. After a time, varying from two to four weeks, the ligature comes away, having slowly cut through the included tissue. According to Mr. Harrison Cripps,[1] the pathological process by which this is accomplished appears to be a gradual destruction or disintegration of the included tissue, due to the ulcerative action of the thread.

The other plan is to tie the silk so tightly that it will completely cut its way through and strangulate all the tissue requiring division in an ordinary case of fistula. This method causes considerable suffering to the patient, and has, therefore, been discarded in favor of the operation next to be described.

Elastic Ligature.—The advocates for the use of the elastic ligature claim for it that there is no hemorrhage. This is a matter of considerable importance when the fistula penetrates deeply, and also in those rare cases of so-called hemorrhagic diathesis where severe bleeding is apt to follow a trivial incision.

For the introduction of the elastic ligature we are indebted chiefly to Dittel, of Vienna. This ligature causes strangulation of the parts by the firm pressure it constantly exerts upon the included structures; it cuts its way out in a week's time or less.

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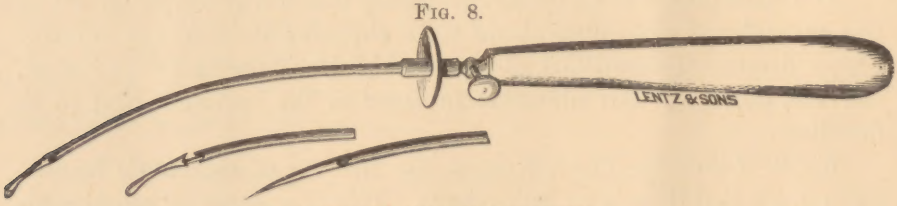
[1] Diseases of the Anus and Rectum, second edition, p. 181, London.

It is stated by those who have had an extended experience with this plan of treatment that, contrary to what one might naturally expect, the pain attending the ulceration of the band through the tissues is slight, especially after the first twelve hours. Consequently, this method would prove a most excellent way of treating fistula if it were always to be relied upon to effect a cure. Unfortunately, this is not the case, for it often happens that after the ligature has cut its way through and the superficial parts have healed, the fistula remains uncured. The reason for this is to be found in the fact that the ligature has dealt with the main track only of a fistula, in which exist one or more secondary channels and diverticula. I am, therefore, in the habit of resorting to this method of treatment only in that class of patients who have an insuperable dread of any cutting operation, where the fistula is uncomplicated with sinuses, in cases of deep fistula, where there is danger of wounding large vessels, in those cases in which the patients are debilitated by reason of some chronic disease, and, finally, in patients of known hemorrhagic tendency. It is also a valuable adjunct to the use of the knife in dealing with cases where a sinus runs for some distance along the bowel.

The method of employing this ligature is as follows: A solid cord of india-rubber, about one-tenth of an inch in diameter, may be threaded to a probe having at one end a rounded opening or eye, through which the ligature is passed. The probe enters the fistula from the external to the internal opening, and passes out through the anus. To facilitate the passage of the cord, the rubber should be put on the stretch. After the ligature is passed, a soft metallic ring is slipped over the two ends of the cord; the cord is then tightly stretched, and the ring slipped up as high as possible and clamped.

If the internal opening be any distance up the bowel, Allingham's instrument (Fig. 8) facilitates the passage of the ligature. This probe-

FIG. 8.



Allingham's elastic ligature-carrier.

pointed instrument is passed along the fistula into the bowel; a loop of the elastic ligature, guided by the forefinger, is then slipped over the end of the probe and caught by an ingenious hook, the ligature being then drawn through the fistula from within outward. This instrument has been modified and improved by Helmuth, of New York.

Little after-treatment is required where the elastic ligature has been used. It will frequently be found that by the time the cord separates the wound has become superficial.

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